National Science Museum

Bull. Natn. Sci. Mus., Tokyo, Ser. A, 9 (1), March 22, 1983

Notes on Nepalese Anobiidae (Coleoptera)[1, 2)]

By

Masahiro SAKAI

Department of Parasitology, Ehime University School of Medicine, Shigenobu

(Communicated by Yoshihiko KUROSAWA)

So far as I know, no anobiid beetles have been recorded from Nepal until now. Several years ago, however, a small collection of Anobiidae obtained by the Hokkaido University Expedition to the Himalaya 1968 was submitted to my hands for study. The collection consists of two specimens belonging to two different species, of which one can be determined as *Trichodesma regalis* PIC known from East India, and the other is a new genus and species to be described under the name of *Nepalanobium quadricostatum*. On the other hand, I myself had an opportunity to participate in the Entomological Expedition to Nepal 1981 made by the National Science Museum of Japan. During the two-month trekking in Nepal, I was able to capture only one adult specimen of the cosmopolitan species, *Stegobium paniceum* (LINNAEUS), but many dorcatomine larvae were collected with their host fungi in the vicinities of Kathmandu and Pokhara. They later emerged into two new species to be described in the present paper under the names of *Striatheca cariniceps* and *Mizodorcatoma uenoi*.

Zoogeographically, it is quite natural that *Trichodesma regalis* PIC known from India is distributed in the lowland of Nepal and that the cosmopolitan species, *Stegobium paniceum* (LINNAEUS) occurs there. However, it seems worth noting that each of the three new species collected in subalpine areas has a close relationship to the species occurring in Japan, Taiwan and/or South China. For example, such diagnostic characters of the new genus *Nepalanobium* as the well-developed elytral costae, antennal features and the unevenness of pronotum are peculiar. At the same time, it is doubtless that this genus is closely related to *Yunnanobium* from Yunnan, South China and a new Taiwanese subgenus allied to *Indanobium* to be described in a forthcoming paper of mine. The new species *Striatheca cariniceps* is the first representative of *Striatheca* from Asia, though another undescribed species of the same genus occurs in Japan. As to *Mizodorcatoma uenoi*, it has the greatest number of characteristics in common with *M. pulcherrima* SAKAI described from southwestern Japan. Such a close affinity in the anobiid fauna between the subalpine areas of Nepal and Japan or Taiwan is very interesting from the zoogeographical viewpoint,

1) This study is supported in part by the Grants-in-aid for Overseas Scientific Survey Nos. 56041060 and 57043055 from the Ministry of Education, Science and Culture, Japan.

2) A part of this report constitutes the Scientific Results of Hokkaido University Expedition to the Himalaya, Entomology, No. 44.

NII-Electronic Library Service

National Science Museum

even though our knowledge about the anobiid fauna of Southeast Asia is very poor.

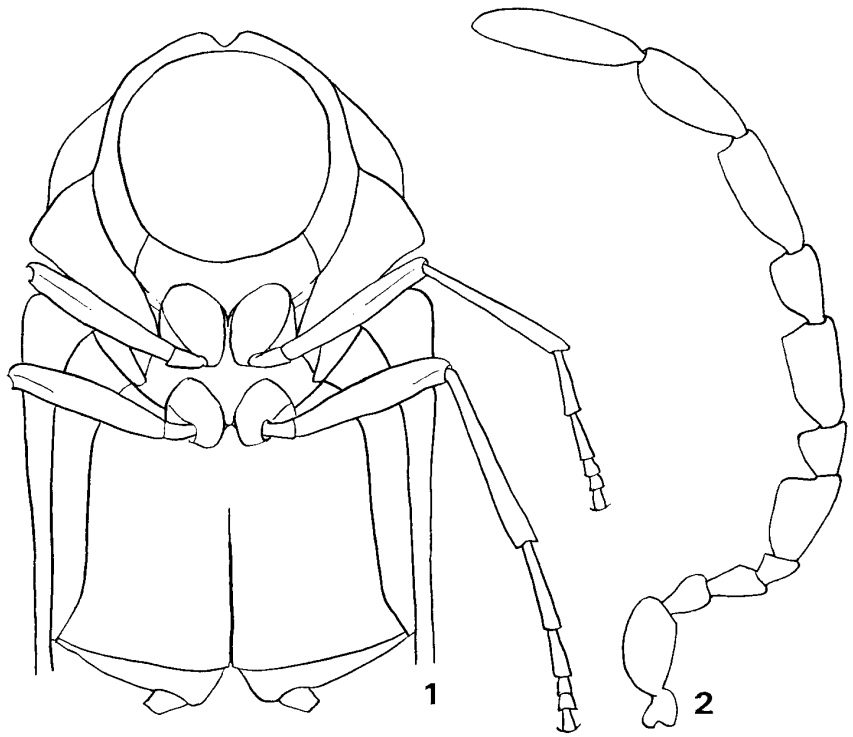
Before going further, I wish to express my sincere thanks to Dr. S.-I. UÉNO, National Science Meseum, Tokyo, who gave me the opportunity to participate in the Himalaya expedition and read through the manuscript of this paper, and also to Dr. S. AE, Messrs. Y. NISHIKAWA, M. TOMOKUNI and M. OWADA for their kind help through the collecting trip. Further, I am much indebted to Dr. T. KUMATA, Hokkaido University, for his offering the materials taken by himself in Nepal. Professor M. MIYATAKE and Mr. S. HISAMATSU, Ehime University, and Prof. M. SATÔ, Nagoya Women's University, also gave me useful advice and constant encouragement in the course of this study.

Nepalanobium gen. nov.

Type-species: *Nepalanobium quadricostatum* sp. nov.

Body elongate-cylindrical, covered with fine granules and minute appressed pubescence.

Head deflexed, evenly convex above, fronto-clypeal suture distinct; transverse carina of submentum present just before the base as in *Ptilinus*; eyes small, not so prominent, each separated by about twice the vertical diameter of an eye; antennae 11-segmented, apical 3 segments somewhat lengthened, though never forming a club



Figs. 1–2. *Nepalanobium quadricostatum* gen. et sp. nov., ♀. —— 1, Ventral aspect of thorax; 2, antenna.

NII-Electronic Library Service

National Science Museum

like the female of *Indanobium,* subgenus of *Ptilinomorphus,* 2nd to 8th not so compactly jointed, 4th, 6th and 8th short; both palpi with last segments nearly fusiform. Pronotum uneven on disc, with a median longitudinal elevation subapically, a pair of definite tubercles beside the elevation, and vague and diagonal hump in front of the tubercle; lateral margin crenulate throughout, anterior margin emarginate at the centre; anterior corner not angulate, narrowly rounded, posterior corner boradly rounded. Elytra elongate, parallel-sided, attenuated posteriorly from apical fifth, punctures confused; each elytron with 4 definite costae on disc, which are connected with one another at posterior declivity; humeral callus well-marked.

Prosternum nearly flat on disc; prosternal process broad-triangular, abruptly narrowed near apex, with pointed tip attaining the middle of procoxa; metasternum long, with a median longitudinal sulcus in apical 3/5. Abdomen with 3rd and 4th visible sternites short; 1st abdominal suture bisinuate, the remainings straight. Legs slender; tarsi subequal in length to tibiae; procoxae and mesocoxae narrowly separated from each other respectively; femora clavate, not so thickened.

Notes. As only a single female specimen was available for the establishment of this new genus, it was impossible to examine the structure of male genitalia useful for the classification of the members of Ptilininae. It is, however, evident that this genus is included in the subfamily Ptilininae in view of the similarity to *Ptilinomorphus* and *Yunnanobium* in general appearance. The new genus is most closely related to *Yunnanobium* in having the short prosternal process, but is readily distinguished from the latter by the peculiar antennal features and the separation of procoxae. It is also similar to *Indanobium,* an Asian subgenus of *Ptilinomorphus,* but is distinguished at first sight from it by the position of the transverse carina on submentum, antennal characters, pronotal sculpture and the presence of developed elytral costae.

The generic name is of the neuter gender.

Nepalanobium quadricostatum sp. nov.

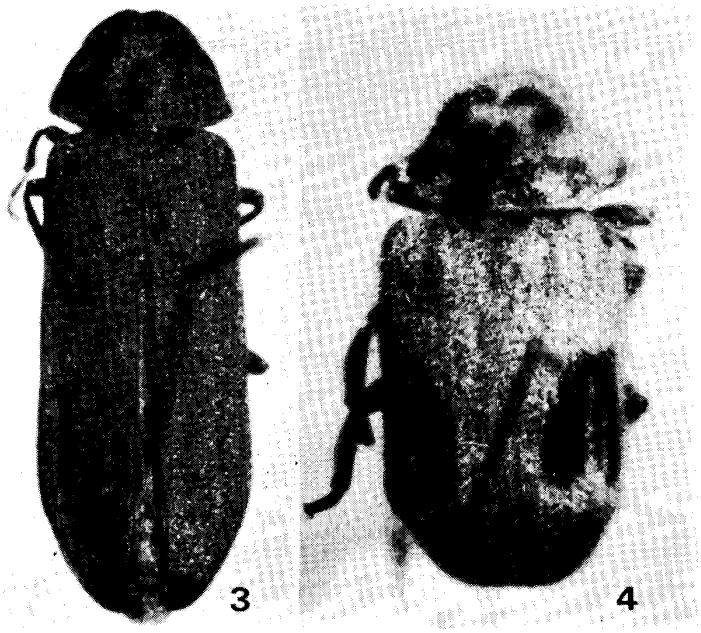
(Figs. 1–3)

Female. Body elongate, about 3.4 times as long as wide; dark brown, with antennae, palpi and tarsi reddish; pubescence very fine, short, dense, entirely appressed, mostly directed posteriorly.

Head densely granulate with the under surface rather scabrous; submentum with transverse carina just before the base. Eyes small, separated by 1.9 times the vertical diameter of an eye, carina over antennal base well produced; fronto-clypeal suture gently arched. Antennae slender, about 1.5 times as long as the width of pronotum, 1st segment robust, 2nd rotundate, as long as 3rd, 3rd dilated apically, 4th the smallest, subtriangular, less than half the length of 5th, 5th enlarged, similar to 7th in shape, but somewhat shorter, 6th small, similar to 8th in shape though apparently shorter, approximately half of 7th, 9th to 11th lengthened, 9th and 10th subequal in size and shape, 9th as long as 2nd to 4th united, 11th the longest, 4.3 times as long as wide.

NII-Electronic Library Service

National Science Museum



Figs. 3–4. —— 3, *Nepalanobium quadricostatum* gen. et sp. nov., ♀. —— 4, *Trichodesma regalis* PIC.

Pronotum densely granulate, granules separated on an average by 1 to 1.5 times their diameter; surface quite uneven, with a longitudinal elevation on the mid-line in basal 1/3, with a paired large tubercle beside the elevation, and a vague hump obliquely located before the tubercle; lateral margin arcuate, crenulate throughout, narrowly reflexed; anterior margin notched medially, with a short indistinct longitudinal depression extending from the notch towards the pronotal centre; front corner ill-defined, obtusely angulate; hind corner broadly rounded. Scutellum quadrate, moderate in size. Elytra elongate, conjointly about 2.6 times as long as wide, parallel-sided in basal 4/5, gently elevated behind scutellum near suture, densely granulated at basal 1/5; punctures confusedly arranged throughout except for punctures forming 2 punctual striae on exteme side; each elytron with well marked 4 longitudinal costae which become obsolete basally, 2nd and 3rd costae meeting at posterior declivity, then connected with 1st, and finally united with 4th (lateralmost) near apex.

Prosternum finely scabrous; prosternal process broadly and triangularly produced, with the tip pointed and attaining about middle of procoxae; mesosternum short, similar to prosternum in sculpture; metasternum finely to moderately granulate anterolaterally, rather smooth and flat centro-posteriorly, with a deep median longitudinal sulcus at the posterior 3/5. Abdominal sternites very finely and densely granulate, 1st visible sternite produced posteriorly in the middle, emarginate near sides, 3rd and 4th short, 4th the shortest, a little longer than a half of 5th, 5th with a depression along the apical margin; all abdominal sutures entire throughout. Legs relatively long, slender, procoxae narrowly but apparently separated from each other, mesocoxae

NII-Electronic Library Service

National Science Museum

also narrowly separated, with the anterior (external) face slightly depressed obliquely for the reception of protarsus in retraction; pro-, meso- and metatarsi approximately equal in length to their corresponding tibiae, and with microscopical asperities as in *Ptilinus* on their outer margins though they are so faint as to be barely detectable.

Male. Unknown.

Length: 6.1 mm; width: 1.8 mm.

Holotype: ♀, Tukucha, Palpa, 2,600 m alt., Central Nepal, 6. V. 1968, T. KUMATA leg. (preserved in the Entomological Institute, Hokkaido University).

Trichodesma regalis PIC

Trichodesma regalis PIC, 1900, Natural., (22): 57.

Specimen examined. 1 ex, Adhabar, Terai Forest, 300 m alt., on the way from Hitaura to Birganj, 27. VII. 1968, T. KUMATA leg.

Through the courtesy of Prof. M. SATÔ, I was able to compare the Nepalese specimen with the photograph of the type-specimen of this species preserved in the British Museum (Nat. Hist.).

Stegobium paniceum (LINNAEUS)

Dermestes paniceum LINNAEUS, 1758, Syst. Nat., 10th ed.: 357.
Stegobium paniceum: JACOBSON, 1912, Rev. russ. Ent., **12**: 358.

Specimen examined. 1 ex, Landrung, ca. 1,600 m alt., near Pokhara, Central Nepal, 23. X. 1981, M. SAKAI leg.

Striatheca cariniceps sp. nov.

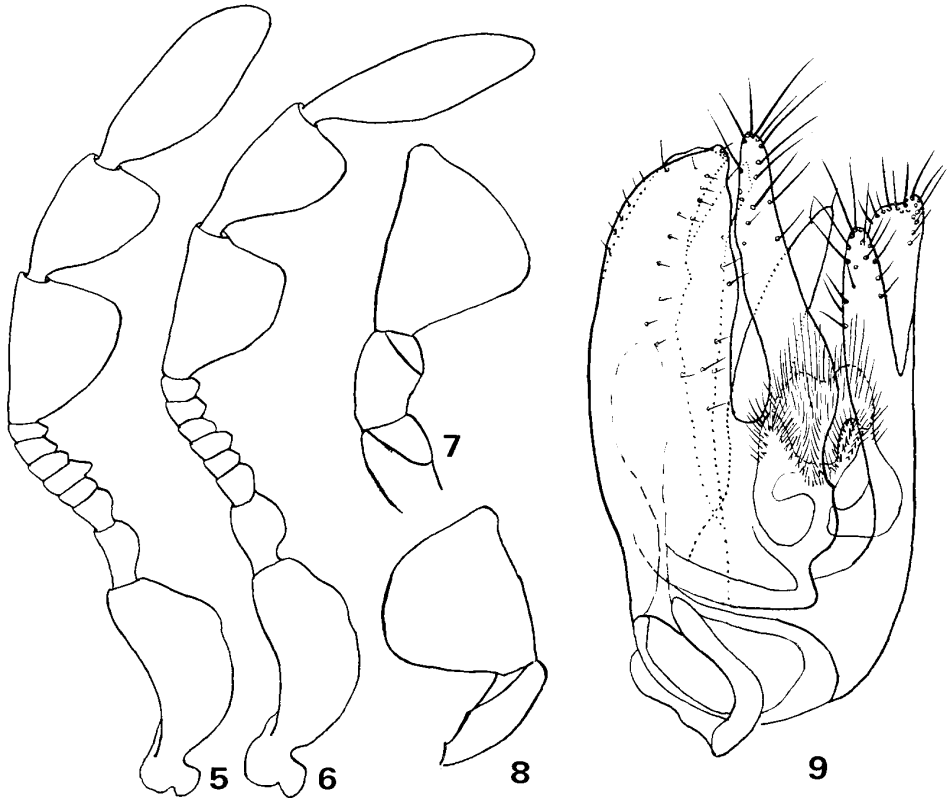
(Figs. 5–10)

Male. Body elongate oval, about twice as long as wide; reddish borwn to dark reddish brown, antennae (except for 1st segment), palpi and tarsi slightly lighter; pubescence fine, moderate to dense, suberect on dorsum, decumbent on venter, directed anteriorly on pronotum, directed posteriorly on abdominal sternites, elytral pubescence just beside striae arranged crosswise, those on interstitial discs inclined posteriorly.

Head lustrous, minutely and rather densely punctured, frontal area depressed, with a definite median longitudinal keel, fronto-clypeal suture indistinct, interrupted at middle by the keel. Eyes relatively small, separated by 2.5 times the vertical diameter of an eye. Under sufrace of head excavated for reception of antennae in retraction, the excavation being ridged basally like the shape of the letter 3. Antennae 11-segmented, terminal 3 segments enlarged, forming a loose club, 1st segment robust, 2nd elongate-rotundate, 3rd about twice as long as 4th, 4th to 8th short, compactly jointed, more or less produced inwards, the projection being most conspicuous in 5th,

NII-Electronic Library Service

National Science Museum



Figs. 5–9. *Striatheca cariniceps* sp. nov. —— 5, Male antenna; 6, female antenna; 7, male maxillary palpus; 8, male labial palpus; 9, male genitalia.

9th dilated apically somewhat longer than 3rd to 8th combined, 10th similar to 9th in shape though a little smaller, 11th about 2.9 times as long as wide. Last segment of maxillary palpus subtriangular; last segment of labial palpus similar to the maxillary in shape, though more rounded on apical margin. Pronotum densely and minutely punctured on disc, the punctures becoming larger towards the sides and giving a scabrous appearance at extreme sides; front corner angulate, hind corner broadly rounded. Scutellum subtrapezoidal, with apical margin rounded. Elytra well convex above, conjointly about 1.4 times as long as wide, subparallel-sided in basal 7/10, then abruptly narrowing posteriorly; each elytron with 10 distinct complete striae and a scutellar stria, striae 1st and 10th, 2nd and 9th, 3rd and 4th, 5th and 8th, and 6th and 7th forming anastomosis on posterior declivity respectively, a very short furrow present beside scutellum, running in parallel with scutellar stria, these two impressions soemtimes connected at apex or at both base and apex, giving a U-shaped or a ring-shaped appearance; interstices flat and smooth.

Prosternum short and broad, glabrous, concave on disc, longitudinally carinate medially, prosternal process triangularly produced, with the tip acutely pointed. Metasternum with anterior 1/3 finely rugose, declivous, greatly excavated for the reception of middle legs, the excavation becoming shallower laterally, marginate by

NII-Electronic Library Service

National Science Museum

keel which is stong antero-posteriorly and weak laterally, and medially produced into a hook-like process; posterior 2/3 of metasternum coarsely rugose, with a median longitudinal groove impressed deeply and broadly. Abdominal sternites finely and sparsely granulate, somewhat shining, conjointly narrowly flattened at the centre, 1st sternite concave for the reception of hind legs except for a median subtriangular plate which is exposed even in retraction, 2nd to 4th equal in length, 5th the longest, foveate at the middle of base, 1st abdominal suture carinate throughout, 2nd to 4th weakly sinuate. Procoxae concealed in repose, contiguous with each other, anterior (external) faces flattened; protibiae slender, barely visible in retraction.

Female. The external sexual dimorphism is not clearly defined, but the female is separable from the male by the following characters: inner projection of 5th antennal segment weaker, abdominal sternites conjointly more flattened at the centre, base of 4th abdominal sternite usually with a faint indication of fovea or impressed line on each side of the centre, rarely at the centre, fovea of 5th sternite more distinct. These characters are indistinct in small-sized material.

Length: 2.56–3.56 mm; width: 1.28–1.75 mm.

Holotype: ♂, Midi, ca. 1,800 m alt., near Landrung, northwest of Pokhara, Central Nepal, emerged on 19. V. 1982 from a kind of polyporus fungus which was collected by M. SAKAI on 23. X. 1981 (preserved in the National Science Museum, Tokyo). Paratypes: 17♂♂, 23♀♀, emerged during a period from 8. V. 1982 to 20. VII. 1982. Other data are as for the holotype. (Most of the paratypes are preserved in the Entomological Laboratory, College of Agriculture, Ehime University.)

Notes. This is the third species of the genus and is the first representative from Asia. The new species somewhat resembles *Striatheca lineata* WHITE from U.S.A. in having the crosswisely arranged elytral pubescence, but is easily distinguished from the latter by the 11-segmented antennae, large-sized body and sculptures of derma.

Mizodorcatoma uenoi sp. nov.

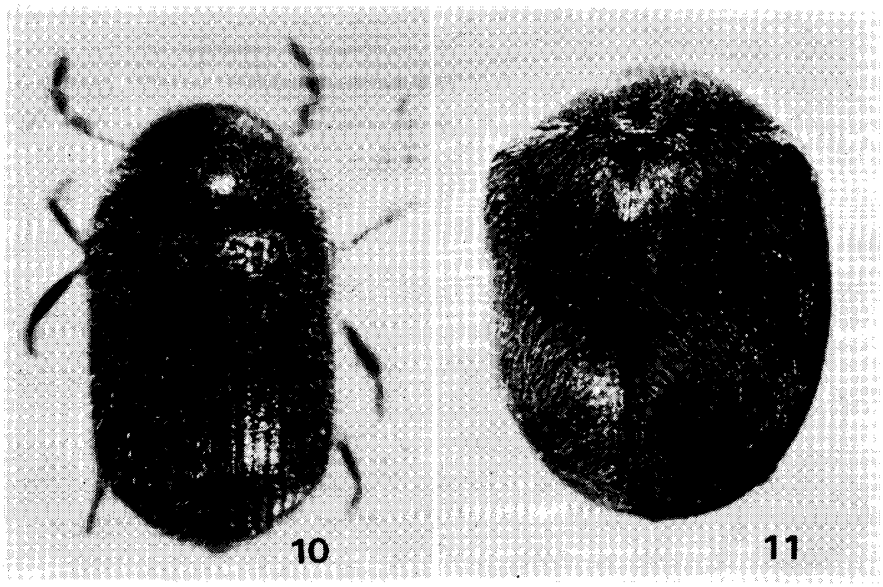
(Figs. 11–17)

Male. Body broadly oval, about 1.4 times as long as wide; blackish brown to reddish brown, elytra, metasternum and legs (excepting tarsi) darker, head, prothorax and abdominal sternites reddish, antennae (except for 1st segment), palpi, tarsi and mesothorax light reddish brown; pubescence fine, dense on dorsum, sparse on venter, directed latero-posteriorly on elytra, anteriorly on pronotum and posteriorly on venter, bicolored, namely, reddish orange pubescence with a lustre under a bright light largely occupying elytra except for lateral and posterior declivities and basal 1/3 of pronotum, white pubescence covering the remaining part.

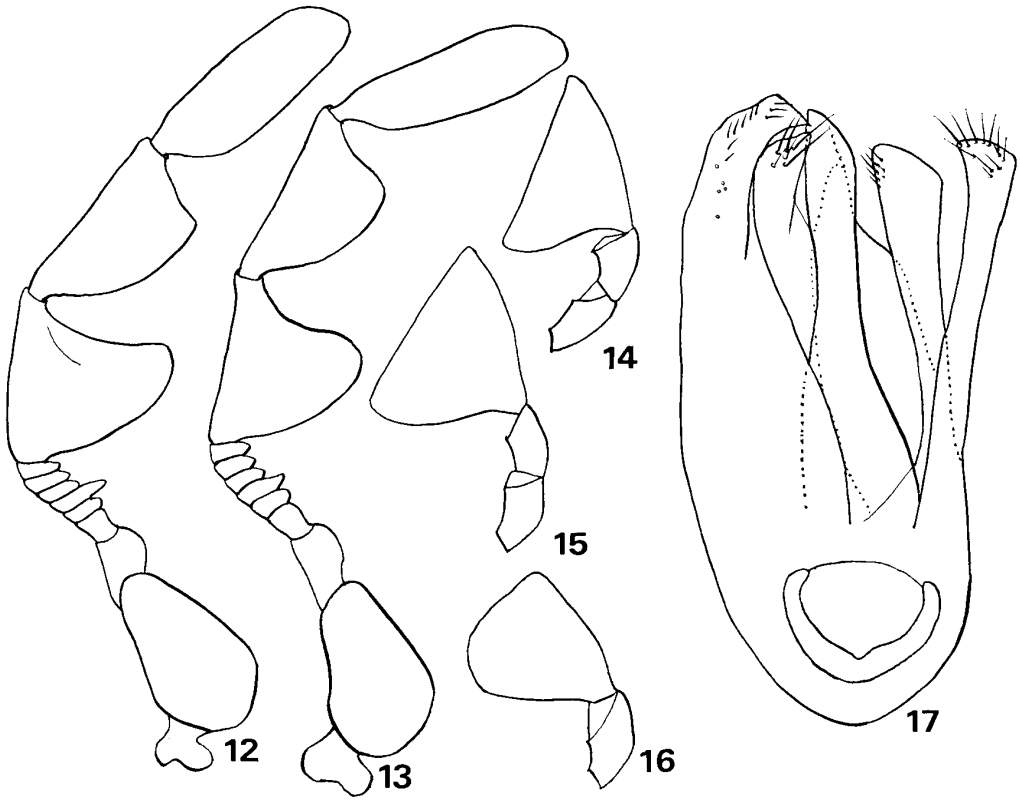
Head minutely densely punctured, uniformly convex above, fronto-clypeal suture deeply grooved. Eyes separated by 1.4 times their vertical diameter, incised triangularly for about 1/4 the entire diameter. Antennae 11-segmented, 1st segment large, much longer than 2nd to 8th combined, 2nd elongate-rotundate, 3rd as long as wide, 4th to

NII-Electronic Library Service

National Science Museum



Figs. 10–11. —— 10, *Striatheca cariniceps* sp. nov. —— 11, *Mizodorcatoma uenoi* sp. nov.



Figs. 12–17. *Mizodorcatoma uenoi* sp. nov. —— 12, Male antenna; 13, female antenna; 14, male maxillary palpus; 15, female maxillary palpus; 16, male labial palpus; 17, male genitalia.

NII-Electronic Library Service

National Science Museum

8th very short, transverse, compactly jointed, more or less produced inwards, the projection of 5th the longest, 9th a little shorter than 1st, subtriangularly expanded apically, with apical margin emarginate, 10th longer than 9th, but much narrower, 11th the longest, about 3 times as long as wide. Last segment of maxillary palpus subtriangular, extremely dilated apically, with apical margin nearly straight. Pronotum densely punctured, punctures dual, small punctures almost uniform in density, separated by about or less than their diameter, larger punctures shallow, with a fine point at the centre of each, scattered among small puncutes at the sides, larger punctures cribrately arranged at the extreme sides. Scutellum subcordate, with a pointed apex. Elytra densely and uniformly punctured, the punctures being somewhat larger than the small punctures of pronotal disc, separated by less than their diameter; each elytron with a scar-like fine keel behind scutellum near suture though it is usually concealed under pubescence, and with 3 lateral grooves, lower 2 grooves distinct, extending from just below humeral callus to near apex, upmost groove short, fine, subobsolete; humeral callus well prominent as in *Caenocara*.

Prosternum short before procoxae, concave, broadly produced into a horn-like process, the tips of which are hairy and sharply pointed, with long setaceous tuft at the centre of anterior margin. Mesosternum deeply excavated for the reception of antennae in retraction. Metasternum flat at the centre, with a fine median longitudinal groove in apical 2/3; irregularly punctured in size and density, the punctures becoming denser and coarser antero-laterally; impunctate area present at the centre, then transversely extending laterad at apical 1/3. Abdominal sternites conjointly flattened at centre; punctures dual, larger punctures similar to pronotal ones, sparsely scattered on the whole surface, small punctures dense and uniform; each sternite with a row of fine granules at base; abdominal sutures weakened at the centre.

Female. External sexual characters uncertain, but the 5th antennal segment is less produced inwards; last segment of maxillary palpus not so dilated as in the male.

Length: 2.24–2.64 mm; width: 1.64–1.88 mm.

Holotype: ♂, Mt. Siwapuri, ca. 2,500 m alt., near Kathmandu, emerged on 30. I. 1982, from a fungus, *Ganoderma* sp., collected by M. SAKAI on 7. X. 1981 (preserved in the National Science Museum, Tokyo). Paratypes: 120 exs., emerged during a period from 25. XII. 1981 to 19. V. 1982. Other data are as for the holotype. (Most of the paratypes are preserved in the Entomological Laboratory, College of Agriculture, Ehime University.)

Notes. This new species is closely similar to *Mizodorcatoma pulcherrima* SAKAI from Japan in general features, but is readily distinguishable from the latter by the following characters: male 9th antennal segment less produced, pronotum devoid of patches formed by swirled pubescence, reddish orange elytral pubescence more largely covering disc, and the difference of dermal sculpture.

NII-Electronic Library Service

National Science Museum

References

ESPAÑOL, F., 1965. Notas sobre Anóbidos. XV. Precisiones sobre el género "*Ptilinus*" Geoffr. y otros elementos afines. *Eos, Rev. esp. Ent.*, **41**: 45–58.

PIC, M., 1900. Diagnoses de Coléoptères americains et asiatiques. *Naturaliste,* **22**: 57.

SAKAI, M., 1979. Studies on the Anobiidae (Coleoptera) from Japan and neighboring countries. II. Four new Japanese species. *Trans. Shikoku ent. Soc.,* **14**: 131–139.

WHITE, R. E., 1973. A new genus, two new species, and a species key for *Byrrhodes* (Coleoptera: Anobiidae). *Proc. ent. Soc. Wash.,* **77**: 169–188.

NII-Electronic Library Service